

AN5791

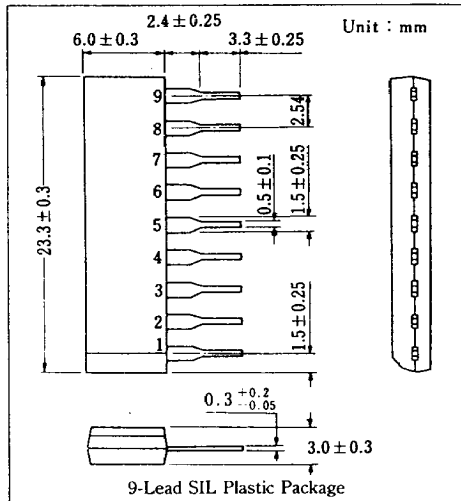
Phase Shift Circuit for CRT Displays

■ Outline

The AN5791 is an integrated circuit designed for phase shift circuit for CRT display.

■ Features

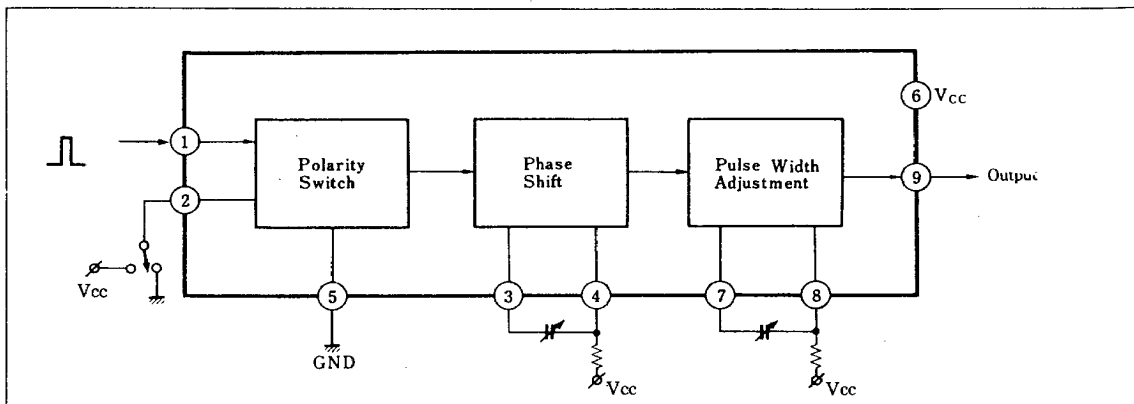
- Processing for both negative and positive sync. signals
- Wide range of possible phase shift ($1\ \mu\text{s} \sim 40\ \mu\text{s}$)
- Possible output pulse width $2\ \mu\text{s} \sim 40\ \mu\text{s}$



■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	H. Sync. Input	6	Vcc
2	Polarity Switch	7	Trigger for Pulse Width
3	Trigger for Phase Shift	8	Pulse Width Adj.
4	Phase Shift Adj.	9	Output
5	GND	—	—

■ Block Diagram



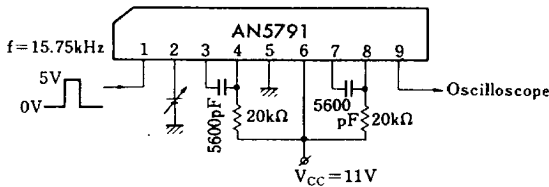
■ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Item		Symbol	Rating	Unit
Supply Voltage		V_{CC}	13.2	V
Power Dissipation		P_D	640	mW
Temperature	Operating Ambient Temperature	T_{opr}	$-20 \sim +70$	$^\circ\text{C}$
	Storage Temperature	T_{stg}	$-40 \sim +150$	$^\circ\text{C}$

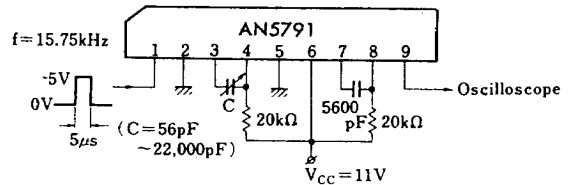
■ Electrical Characteristics($T_a=25^\circ\text{C}$)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Circuit Current	I_6		$V_{CC}=11\text{V}$	18	25	32	mA
Circuit Voltage(1)	V_{3-5}		$V_{CC}=11\text{V}$	1.3	1.6	1.9	V
Circuit Voltage(2)	V_{7-5}		$V_{CC}=11\text{V}$	1.3	1.6	1.9	V
Polarity Changeover Voltage(1)	V_{2-5}	1	Positive Polarity Signal Input	0		0.4	V
Polarity Changeover Voltage(2)	V_{2-5}	1	Negative Polarity Signal Input	2.5		5.5	V
Phase Shift Time	$t_{(1)}$	2	$V_{CC}=11\text{V}$	4.5	5.0	5.5	μs
Enable Pulse Shift Time	$t_{(2)}$	2	$V_{CC}=11\text{V}$	1		40	μs
Change with Supply Voltage for Phase Modulation Time	$\Delta t_{(1)}/V_{CC}$	3	$V_{CC}=9.9\text{V} \sim 12.1\text{V}$			5	%
Change with Ambient Temperature for Phase Modulation Time	$\Delta t_{(1)}/T_a$	3	$V_{CC}=11\text{V}, T_a=-20^\circ\text{C} \sim 60^\circ\text{C}$			5	%
Output Pulse Width	$\tau_{(HD1)}$	4	$V_{CC}=11\text{V}$	4.4	4.9	5.4	μs
Enable Output Pulse Width	$\tau_{(HD2)}$	4	$V_{CC}=11\text{V}$	2		40	μs
Change with Supply Voltage for Output Pulse Width	$\Delta \tau_{(HD1)}/V_{CC}$	3	$V_{CC}=9.9\text{V} \sim 12.1\text{V}$			5	%
Change with Ambient Temperature for Output Pulse Width	$\Delta \tau_{(HD1)}/T_a$	3	$V_{CC}=11\text{V}, T_a=-20^\circ\text{C} \sim 60^\circ\text{C}$			5	%

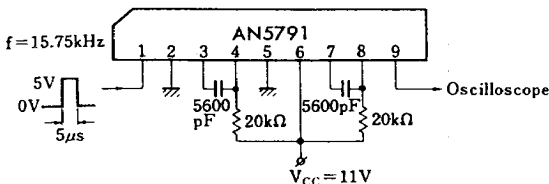
Test Circuit 1 (V_{2-5})



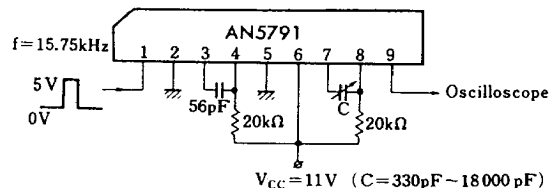
Test Circuit 2 ($t_{(1)}, t_{(2)}$)



Test Circuit 3 ($\Delta t_{(1)}/V_{CC}, \Delta t_{(1)}/T_a, \Delta \tau_{(HD1)}/V_{CC}, \Delta \tau_{(HD1)}/T_a$)



Test Circuit 4 ($\tau_{(HD1)}, \tau_{(HD2)}$)



■ Application Circuit

